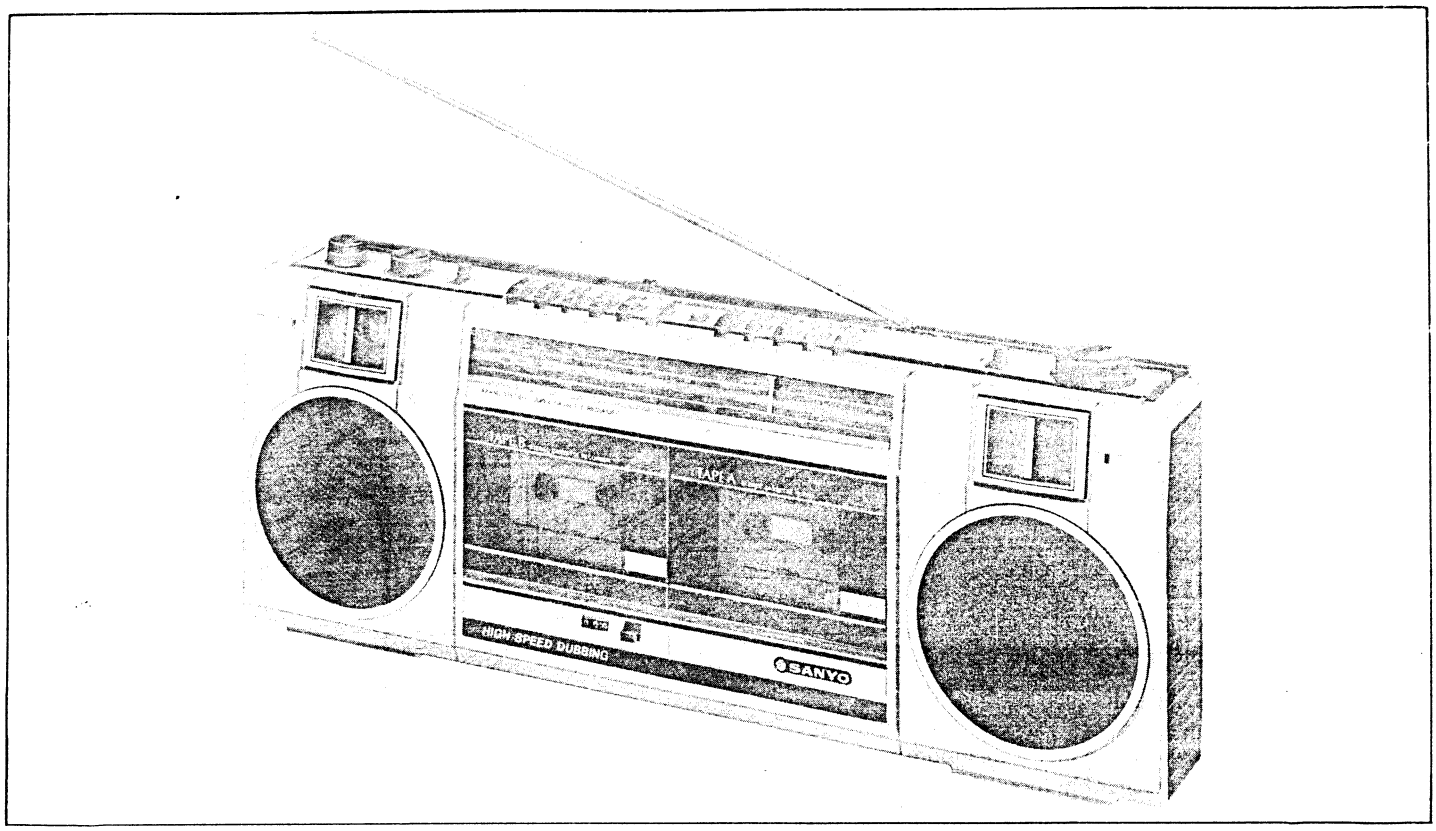
SERVICE MANUAL

CASSETTE RECORDER

SANYO

M W200L

(EUROPE)



SPECIFICATIONS

Recording system	AC bias, 4-track stereo
Erasing system	AC erase, 2-track
Tape speed	4.75 cm/sec (1-7/8 i.p.s.)
Rewind and fast forward time	2 min. (C–60)
Frequency range	LW: 150 – 285 kHz
	MW: 525 – 1,605 kHz
	SW: 5.95 – 18 MHz
	FM: 87.5 – 108 MHz
Terminal impedance	EXT.MIC: 22k ohms (1 mV)
	EXT SP: 4 – 8 ohms
	HEAD PHONE: 32 ohms
Frequency response	90 – 13,000 Hz
Output power	4 W (maximum)
Power source	DC: 7.5 V, "D" size x 5
	AC: 115/230V, 50/60Hz
Dimension	565 (W) x 102 (D) x 210 (H) mm
Weight	Approx. 3.9 kg. including batteries

Specifications subject to change without notice.

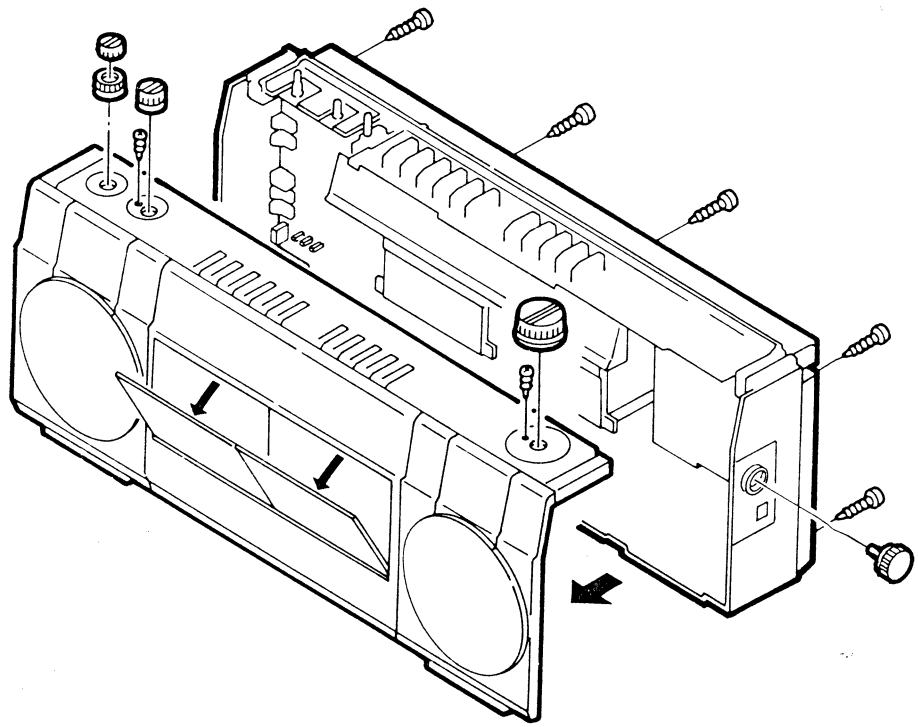
*This recorder incorporates two mechanisms.
The right side mechanism for play is referred to as TAPE A (or TAPE 1), and the left side mechanism for record/play is called TAPE B (or TAPE 2) in this manual.

VM-15652

DISASSEMBLING PROCEDURE

REMOVING CABINET

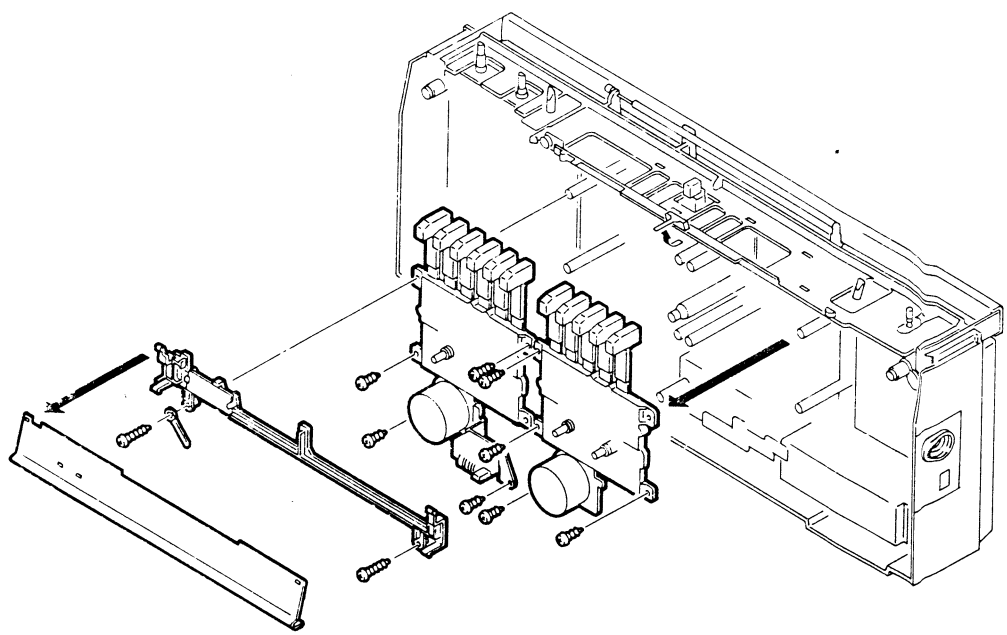
1. As the first step for disassembly units. Remove the power cord from the AC outlet.
2. Remove the battery compartment lid.
3. Remove the 5 back lid mounting screws shown on the illustration.
4. Remove the 5 knobs (TUNING, VOLUME, TONE & FINE TUNE).
5. Remove 2 screws located under Tone and Tuning knobs.
6. Push the EJECT button to open the cassette compartment lids.
7. Remove the cabinet front.



REMOVING MECHANISM

1. Remove the 2 screws on the dial scale mounting bracket, and remove the bracket.
2. Remove the 8 tape mechanism mounting screws, and remove the tape mechanisms.

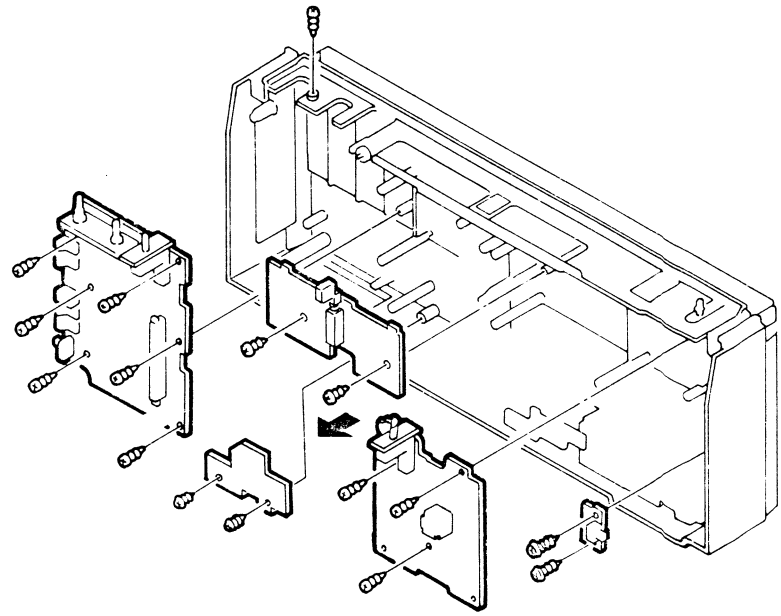
Note: Tape mechanisms can be removed separately by removing the screws holding individual mechanism.



DISASSEMBLING PROCEDURE

REMOVING PRINTED CIRCUIT BOARDS

Remove the P.C.Board mounting screws.



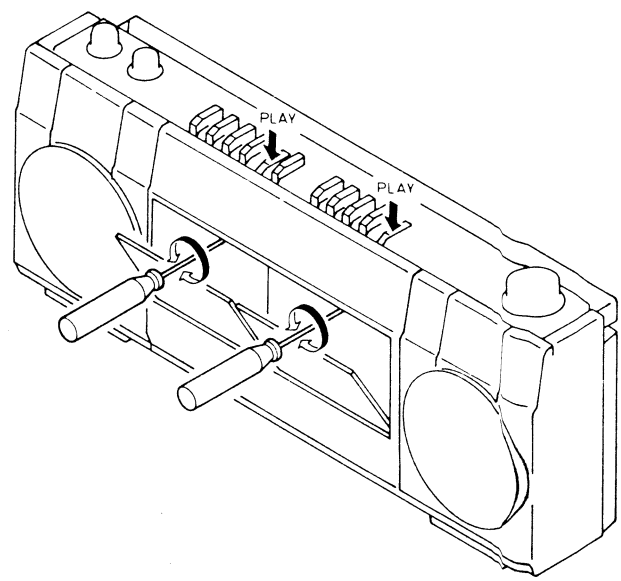
ADJUSTMENT OF THE HEAD AZIMUTH

Preparations

1. When replacing the head, demagnetize it by using a head eraser.
2. Be sure to clean the head before making the adjustment.

TEST TAPE	VTT-657 (etc.) ; 8,000 Hz

(1) Insert the test tape (8,000 Hz) in tape deck 1.
(2) Press the PLAY button of tape deck 1.
(3) Use a cross-tip (+) screwdriver to turn the azimuth-adjustment screw of tape deck 1 so the left and right outputs are maximum while the tape in tape deck 1 is playing.
(4) Press the STOP button of tape deck 1.
(5) After adjusting tape deck 1, insert the test tape in tape deck 2.
(6) Press the PLAY button of tape deck 2.
(7) Use a cross-tip (+) screwdriver to turn the azimuth-adjustment screw of tape deck 2 so the left and right outputs are maximum while the tape in tape deck 2 is playing.
(8) Press the STOP button of tape deck 2.



ADJUSTMENT OF MECHANISM

Prior to measurement, clean the head, capstan and pinch roller.
Confirm of the followings torques and tensions.

Measurement item	Take-up torque	Back tension	Pulley tension
Measurement cassette	PLAY: TW-2111 F-FWD/REW: TW-2231	PLAY/F-FWD: TW-2111 REW: Torque gage	Drive power cassette TW-2412
PLAY	30 ~ 70 gr-cm	2 ~ 4 gr-cm	> 150g
F-FWD	55 ~ 150 gr-cm	2 ~ 4 gr-cm	
REW	55 ~ 150 gr-cm	2 ~ 4 gr-cm	

ADJUSTMENT OF THE MOTOR SPEED

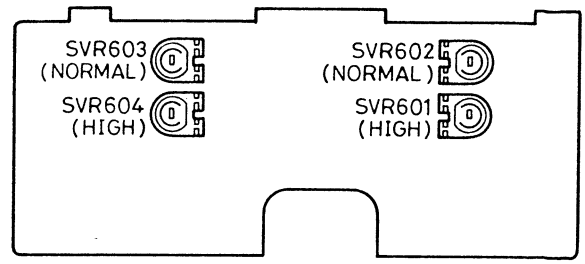
MOTOR SPEED	TEST TAPE
NORMAL (STANDARD)	MTT-111N (etc.) : 3,000 Hz
HIGH (FAST)	TCW-211 (etc.) : 1,500 Hz

FUNCTION SWITCH ... DUBBING

1. ADJUSTMENT OF THE MOTOR SPEED DURING CONSTANT SPEED (NORMAL)

DUBBING SPEED SWITCH . . . NORMAL

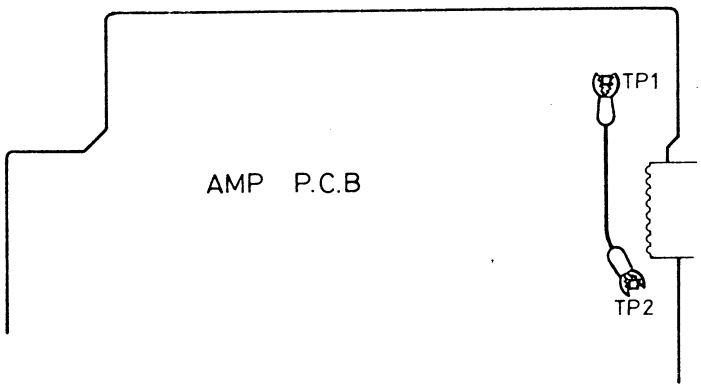
(1) Insert the test tape (3,000 Hz) in tape deck 1.
(2) Press the PLAY button of tape deck 1.
(3) Adjust SVR602 of the DUBBING SWITCH P.C.B. so that the frequency counter reading is 3,000 Hz.
(4) Press the STOP button of tape deck 1.
(5) After adjusting tape deck 1, insert the test tape in tape deck 2.



(6) Press the PLAY button of tape deck 2.
(7) Adjust SVR603 of the DUBBING SWITCH P.C.B. so that the frequency counter reading is 3,000 Hz.
(8) Press the STOP button of tape deck 2.

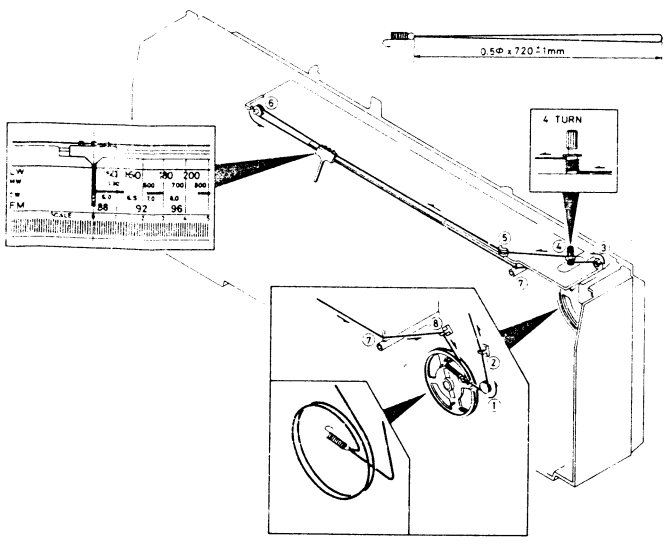
2. ADJUSTMENT OF THE MOTOR SPEED DURING 2X SPEED (HIGH)

DUBBING SPEED SWITCH . . . HIGH



(1) Short-circuit TP1 and TP2 of the AMP. P.C.B. by using the lead wire to get the HIGH tape speed. (Short-circuit COMMON of S701-6 and ON of S721.)
(2) Insert the test tape (1,500 Hz) in tape deck 1.
(3) Press the PLAY button of tape deck 1.
(4) Adjust SVR601 of the DUBBING SWITCH P.C.B. so that the frequency counter reading is 3,000 Hz.
(5) Press the STOP button of tape deck 1.
(6) After adjusting tape deck 1, insert the test tape in tape deck 2.
(7) Press the PLAY button of tape deck 2.
(8) Adjust SVR604 of the DUBBING SWITCH P.C.B. so that the frequency counter reading is 3,000 Hz.
(9) Press the STOP button of tape deck 2.
(10) Disconnect the lead wire used to short-circuit TP1 and TP2 of the AMP. P.C.B.

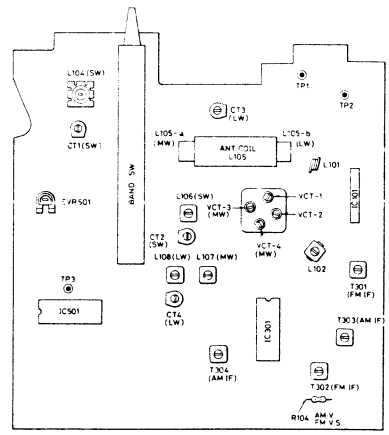
THREADING OF DIAL ROPE



ADJUSTMENT OF TUNER

*Adjust the intermediate frequency of AM (MW/LW/SW) frequency of ceramic filter.

Supply voltage DC 7.5V Standard output 50mW (0.39V)
Speaker impedance 3 ohm Function selector RADIO



ADJUSTMENT OF TUNER

MW **BAND SELECT SW : MW**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to Test Loop	Connect sweep generator to TP4, TP5	460kHz	Low	T303, 304	MAX.
2	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	505kHz	Low End	L107	MAX.
3				1650kHz	High End	VCT-4	
4	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	600kHz	600k Hz	L105-a	MAX.
5				1400kHz	1400kHz	VCT-3	
6	Repeat adjustments						

LW **BAND SELECT SW : LW**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	145kHz	Low End	L108	MAX.
2				295kHz	High End	CT-4	
3	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	160kHz	160kHz	L105-b	MAX.
4				280kHz	280kHz	CT-3	
5	Repeat adjustments						

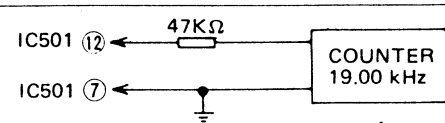
SW **BAND SELECT SW : SW** DUMMY ANTENNA PAD (50Ω, 10pF)

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	5.8MHz	Low End	L106	MAX.
2				19.0MHz	High End	CT-2	
3	Tracking	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	7.0MHz	7.0MHz	L104	MAX.
4				18.0MHz	18.0MHz	CT-1	
5	Repeat adjustments						

FM **BAND SELECT SW : FM** Dummy antenna for FM: 75 ohms unbalanced

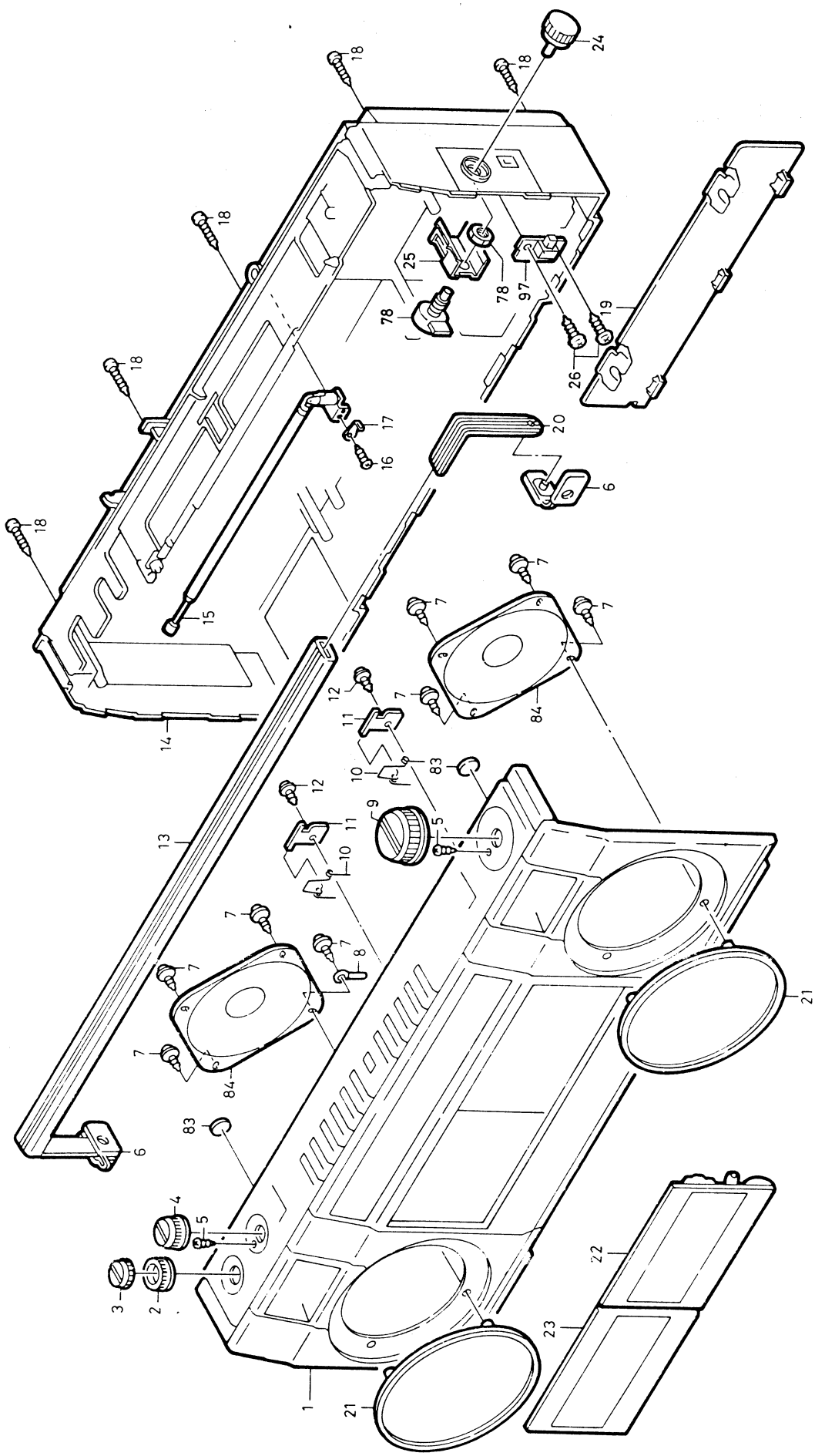
Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to TP-1 & TP-2	Connect sweep generator to R104, GND	10.7MHz	Low	T301	
2	Detector		Connect sweep generator to R104, GND			T302	
3	Tuning Coverage	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals	87.35MHz	Low End	L102	MAX.
4				108.3MHz	High End	VCT-2	
5	Tracking	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals	90.0MHz	90.0MHz	L101	MAX.
6				106.0MHz	106.0MHz	VCT-1	
7	Repeat adjustments						

Adjustment of FM VCO
Radio band selector: FM STEREO

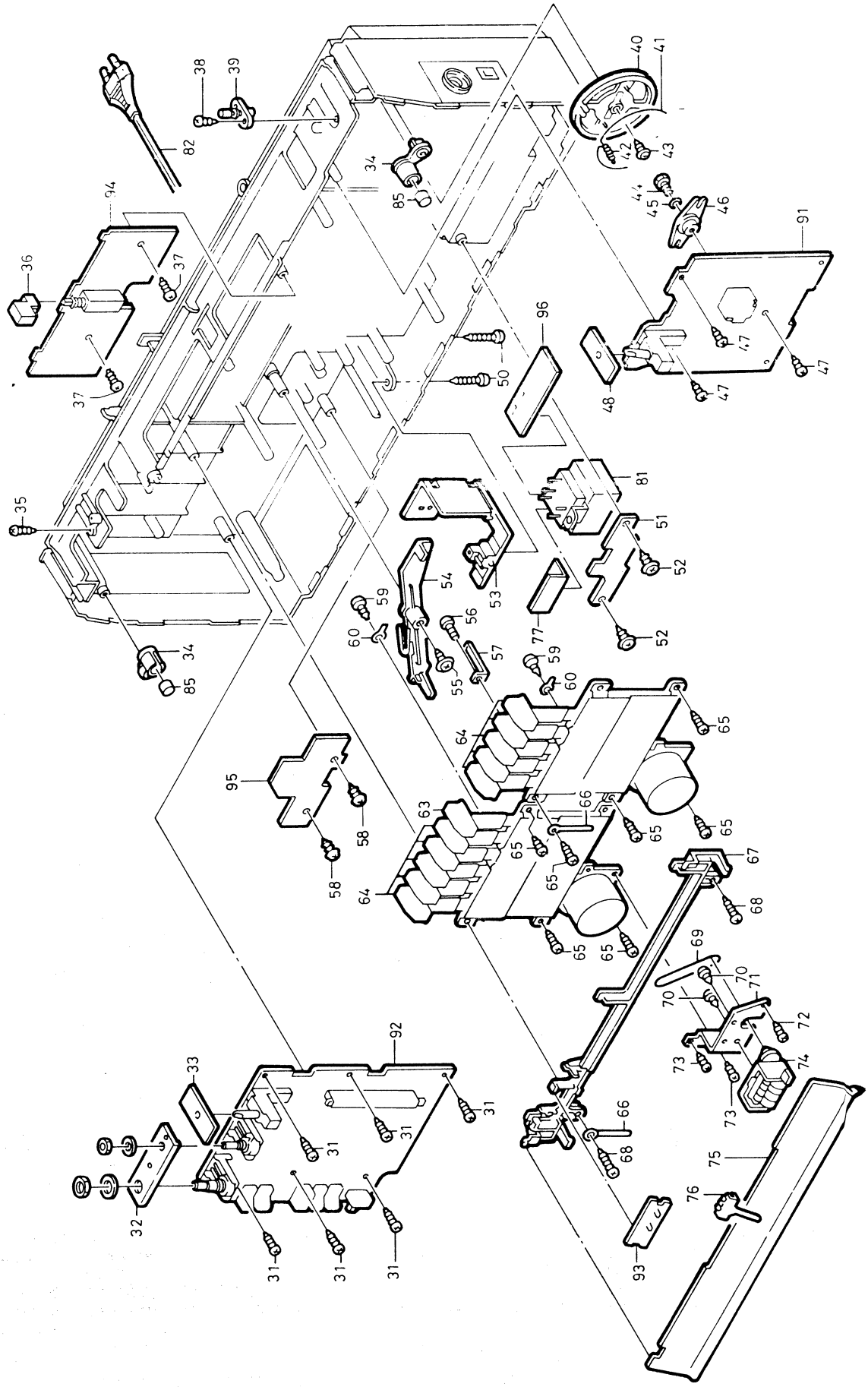


Turn SVR501 until the frequency counter reads 19.00 kHz ±100 Hz.

CABINET EXPLODED VIEW



CHASSIS EXPLODED VIEW



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTE:

* Materials of Capacitors and Resistors are abbreviated as follows;

AL ELECT .....Aluminum Electrolytic
BC CON.....Semiconductor Ceramic
CHIP BC .....Chip Semiconductor Ceramic
CHIP TAN.....Chip Tantal
ELECT .....Electrolytic
PP CON.....Polypropylene
MT GLAZE.....Metal Glaze
FP CARBON .....Flameproof Carbon

* Tolerance of Capacitors and Resistors are noted with follow symboles;

J .....±5%
K.....±10%
M .....±20%
N.....±30%
P .....+100−0%
Q .....+30−10%
Z .....+80−20%

PACKING

Ref. No.	Part No.	Description
	141-6-133T-48808	INNER CORR CASE
	141-6-144T-92100	FOAM PLASTIC CASE, LEFT SIDE
	141-6-144T-92200	FOAM PLASTIC CASE, RIGHT SIDE
	141-6-231T-40700	INNER POLYE COVER, 400X200MM, SET
	141-6-410T-96112	INSTRUCTION MANUAL

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	141-0-111T-58009	CABINET ASSY
2	141-2-163T-87602	ROTARY KNOB, VOLUME, LEFT
3	141-2-163T-87702	ROTARY KNOB, VOLUME, RIGHT
4	141-2-163T-85302	ROTARY KNOB, TONE
5	BJS2S++3+6+Z1	FLAT HD 2 TAPPING SCREW 3X6MM, CABINET TOP MTG. (2 USED)
6	141-2-271T-20700	BRACKET HANDLE (2 USED)
7	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8MM, SPEAKER MTG. (8 USED)
8	141-2-472T-01001	LUG, SPEAKER LEAD MTG.
9	141-2-163T-85202	ROTARY KNOB, TUNING
10	141-2-856T-43300	SPRING COIL, CASSETTE LID MTG. (2 USED)
11	141-2-290T-05600	BRACKET, CASSETTE LID MTG. (2 USED)
12	BJX6S++3+6+Z1	PAN WASHER HD 2 TAPPING SCREW 3X6MM, BRACKET MTG. (2 USED)
13	141-0-171T-20031	HANDLE ASSY
14	141-0-125T-44731	BACK LID ASSY
15	4-244T-06371	ROD ANTENNA
16	BJN2S++312+Z1	PAN HD 2 TAPPING SCREW 3X12MM, ROD ANTENNA MTG.
17	141-2-472T-05700	LUG, ROD ANTENNA
18	BJN2S++320+Z1	PAN HD 2 TAPPING SCREW 3X20MM, CABINET BACK MTG. (5 USED)
19	141-2-128T-21340	BATTERY LID
20	141-2-271T-21200	BRACKET HANDLE (2 USED)
21	141-2-153T-90400	ESCUTCHEON, SPEAKER NET (2 USED)
22	141-0-124T-40001	TOP LID ASSY, CASSETTE LID, RIGHT, TAPE A
23	141-0-124T-39901	TOP LID ASSY, CASSETTE LID, LEFT, TAPE B
24	141-2-163T-89030	ROTARY KNOB, FINE TUNING
25	141-2-361T-21400	BRACKET RESISTOR, FINE TUNING VOLUME
26	BJN2S++3+8+Z1	PAN HD 2 TAPPING SCREW 3X8MM, FM MODE SWITCH P.C.BOARD MTG. (2 USED)
31	BJN2S++310+Z1	PAN HD 2 TAPPING SCREW 3X10MM, AMP P.C.BOARD (6 USED)
32	141-2-361T-21300	BRACKET RESISTOR, VOLUME/TONE
33	141-2-241T-24300	VEIL, FUNCTION SWITCH
34	141-2-385T-06500	BRACKET MIC, BILT-IN MIC
35	BJN2S++310+Z1	PAN HD 2 TAPPING SCREW 3X10MM, BRACKET VOLUME MTG.
36	141-2-160T-56100	PUSH BUTTON, DUBBING SPEED SWITCH
37	BJN2S++3+8+Z1	PAN HD 2 TAPPING SCREW 3X8MM, DUBBING SPEED & CONTINUOUS PLAY SWITCH P.C.BOARD MTG. (2 USED)
38	BJN2S++310+Z1	PAN HD 2 TAPPING SCREW 3X10MM, TUNING SHAFT MTG.
39	141-0-566T-04610	TUNING SHAFT ASSY
40	141-2-538T-13000	DRUM, DIAL
41	141-2-340T-05003	ROPE, 0.5X1600MM
42	141-2-851T-06300	SPRING COIL, DIAL ROPE
43	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8MM, DRUM MTG.
44	BJRBS2R6+6+Z1	HEXAGON HD BOLT 2.6X6MM, JOINT MTG.
45	WJHGK2R6R0BZ1	EXTERNAL TOOTH LOCK WASHER 2.6X5.8X0.32MM, JOINT MTG.
46	141-2-253T-24600	JOINT, TUNING CAPACITOR
47	BJN2S++310+Z1	PAN HD 2 TAPPING SCREW 3X10MM, TUNER P.C.BOARD (3 USED)
48	141-2-241T-24300	VEIL, BAND SWITCH
50	BJN2S++320+Z1	PAN HD 2 TAPPING SCREW 3X20MM, BRACKET

PARTS LIST

Ref. No.	Part No.	Description
50		TRANSFORMER MTG. (2 USED)
51	141-2-310T-94800	BRACKET, POWER TRANSFORMER
52	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8MM, POWER TRANSFORMER BRACKET MTG. (2 USED)
53	141-2-371T-10600	BRACKET, POWER TRANSFORMER
54	141-2-740T-07000	LEVER, RECORD/PLAY
55	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8MM, LEVER MTG.
56	BJN2S2R6+4+Z1	PAN HD 2 TAPPING SCREW 2.6X4MM, SPRING PLATE MTG.
57	141-2-853T-84600	SPRING PLATE, RECORD/PLAY
58	BJN2S++3+8+Z1	PAN HD 2 TAPPING SCREW 3X8MM, POWER SUPPLY P.C.BOARD MTG. (2 USED)
59	BJN2S++3+8+Z1	PAN HD 2 TAPPING SCREW 3X8MM, MECHANISM MTG. (2 USED)
60	123-2-472R-00400	LUG, MECHANISM GROUND (2 USED)
63	141-2-160T-31160	PUSH BOTTON, RECORD
64	141-2-160T-31150	PUSH BUTTON, PAUSE/STOP & EJECT/F.FWD/REW/PLAY (10 USED)
65	BJN2S++312+Z1	PAN HD 2 TAPPING SCREW 3X12MM, MECHANISM MTG. (7 USED)
67	141-2-210T-49400	BRACKET, DIAL SCALE
68	BJN2S++320+Z1	PAN HD 2 TAPPING SCREW 3X20MM, BRACKET MTG. (2 USED)
69	141-2-564T-31600	SQUARE BELT, TAPE COUNTER
70	BJNBS++3+4+Z1	PAN HD SCREW 3X4MM, TAPE COUNTER MTG. (2 USED)
71	141-2-812T-13000	BRACKET COUNTER
72	BJN2S++312+Z1	PAN HD 2 TAPPING SCREW 3X12MM, BRACKET MTG.
73	BJN2S++3+6+Z1	PAN HD 2 TAPPING SCREW 3X6MM, BRACKET COUNTER MTG. (2 USED)
74	141-2-811T-10500	COUNTER, TAPE
75	141-2-146T-33606	DIAL SCALE
76	141-2-511T-25701	POINTER, DIAL
77	141-2-135T-92600	COVER, POWER TRANSFORMER

ELECTRICAL PARTS

Ref. No.	Part No.	Description
	4-234T-04471	FUSE, 1A 250V
or	4-234T-11084	FUSE, 1A 250V
	4-235T-34600	SOCKET, FINE TUNE VOLUME
	141-2-464T-20671	FIXER (3 USED)
	141-2-472T-01001	LUG
82	⚠ 4-243T-84973	POWER CORD
83	4-151T-40574	SPEAKER, TWEETER (2 USED)
or	4-151T-42974	SPEAKER, TWEETER (2 USED)
84	4-151T-46700	SPEAKER, WOOFER (2 USED)
85	4-153T-11771	MIC, BUILT-IN
or	4-153T-11772	MIC, BUILT-IN
FVR-1	4-220T-04500	VARIABLE RESISTOR, 10K OHM, FINE TUNE
C726	CE+16107MY++S	ELECT 100MF 16V M Y
C727	CE+16107MY++S	ELECT 100MF 16V M Y

TUNER P.C.BOARD ASSY

Ref. No.	Part No.	Description
91	141-4-280T-66803	P.C BOARD ASSY, TUNER
	4-240T-11272	SOCKET, 5P, AMP

Ref. No.	Part No.	Description
VC/VCT	4-224T-22100	TUNING CAPACITOR
CT1	4-224T-15571	TRIMMER, 11PF
CT2	4-224T-15571	TRIMMER, 11PF
CT3	4-224T-15471	TRIMMER, 30PF
CT4	4-224T-15471	TRIMMER, 30PF
T301	4-256T-23010	IFT, FM
T302	4-256T-27710	IFT, FM
T303	4-256T-22910	IFT, AM
T304	4-256T-23910	IFT, AM
L101	4-265T-02710	VHF COIL, FM
L102	4-265T-51310	VHF COIL, FM
L103	4-253T-15008	FILTER, SW
L104	4-257T-51010	ANTENNA COIL, SW
L105	4-257T-67401	ANTENNA COIL ASSY, MW/LW
L106	4-258T-39110	OSC COIL, SW
L107	4-258T-39210	OSC COIL, MW
L108	4-258T-39310	OSC COIL, LW
CF301	4-256T-80400	I.F FILTER, RED, FM
or	4-256T-80471	I.F FILTER, BLUE, FM
or	4-256T-80472	I.F FILTER, ORANGE, FM
or	4-256T-80473	I.F FILTER, BLACK, FM
or	4-256T-80474	I.F FILTER, WHITE, FM
CF302	4-256T-81171	I.F FILTER, AM
BPF	4-253T-13400	FILTER, FM
S1	4-238T-27172	SWITCH, BAND SELECT
SVR501	4-222T-71175	SEMI-FIXED RESISTOR, 10K OHM
TP1	4-237T-00171	TERMINAL BOARD
TP2	4-237T-00171	TERMINAL BOARD
TP3	4-237T-00171	TERMINAL BOARD
TP4	4-237T-00171	TERMINAL BOARD
IC101	SITA7358P++++	IC TA7358P
IC301	SITA7640AP1++	IC TA7640AP1
or	SITA7640AP2++	IC TA7640AP2
IC501	SIBA1332+++++	IC BA1332
Q101	STC930+E1++C+	TR 2SC930 E1 CONV
D101	SC1S553T++++T	VARACTOR DIODE 1S553T
D102	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
D103	SC1S553T++++T	VARACTOR DIODE 1S553T
D301	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
C101	CC+50100JASL+	CERAMIC 10PF 50V J A SL
C103	CB+25103NAXR+	BC CON 0.01MF 25V N A XR
C104	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C105	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C106	CC+50100JASL+	CERAMIC 10PF 50V J A SL
C107	CC+50200JASL+	CERAMIC 20PF 50V J A SL
C108	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C109	CC+50150JDCHS	CERAMIC 15PF 50V J D CH
C110	CC+50240JDCHS	CERAMIC 24PF 50V J D CH
C111	CC+503R9KACH+	CERAMIC 3.9PF 50V K A CH
C112	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C114	CC+50620JASL+	CERAMIC 62PF 50V J A SL
C115	CC+508R2KASL+	CERAMIC 8.2PF 50V K A SL
C116	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C117	CB+25332MRXRF	BC CON 0.0033MF 25V M R XR
C118	CC+502R2KASL+	CERAMIC 2.2PF 50V K A SL
C119	CN100341JM++F	P P CON 340PF 100V J M
C120	CC+505R6KARH+	CERAMIC 5.6PF 50V K A RH
C121	CS+50251JV++S	STYROL 250PF 50V J V
C122	CC+50201JRCHF	CERAMIC 200PF 50V J R CH F
C123	CC+50100JARH+	CERAMIC 10PF 50V J A RH
C124	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C125	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C126	CC+508R2KASL+	CERAMIC 8.2PF 50V K A SL
C127	CC+50470JASL+	CERAMIC 47PF 50V J A SL
C128	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C129	CC+50100JASL+	CERAMIC 10PF 50V J A SL
C130	CC+50050CDCHS	CERAMIC 5PF 50V C D CH
C131	CC+50103ZDZFS	CERAMIC 0.01MF 50V Z D ZF
C132	CB+25103NAXR+	BC CON 0.01MF 25V N A XR
C133	CC+50101MDSLS	CERAMIC 100PF 50V M D SL
C301	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C302	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y

PARTS LIST

Ref. No.	Part No.	Description
C303	CC+50331KAYB+	CERAMIC 330PF 50V K A YB
C304	CB+16223NA+Y+	BC CON 0.022MF 16V N A Y
C305	CE+16106MR++F	ELECT 10MF 16V M R
C306	CE+10226MR++F	ELECT 22MF 10V M R
C307	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C308	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C309	CE+10337MY++S	ELECT 330MF 10V M Y
C310	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C501	CE+50225MR++F	ELECT 2.2MF 50V M R
C502	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C503	CN100102JM++F	P P CON 1000PF 100V J M
C504	CE+50225MR++F	ELECT 2.2MF 50V M R
C505	CE+50474MR++F	ELECT 0.47MF 50V M R
C506	CE+50225MR++F	ELECT 2.2MF 50V M R
C507	CE+50225MR++F	ELECT 2.2MF 50V M R
C508	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C509	CB+12333NA+Y+	BC CON 0.033MF 12V N A Y
C510	CE+50225MR++F	ELECT 2.2MF 50V M R
C511	CE+50225MR++F	ELECT 2.2MF 50V M R
C512	CC+50101MDSLS	CERAMIC 100PF 50V M D SL
R101	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R102	RC/+4101KT++R	CARBON T 100 OHM K1/4WR25
R103	RC/+4334KT++R	CARBON T 330KOHM K1/4WR25
R104	RC/+4105KT++R	CARBON T 1M OHM K1/4WR25
R105	RC/+4330KT++R	CARBON T 33 OHM K1/4WR25
R106	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R107	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R108	RC/+4562KT++R	CARBON T 5.6KOHM K1/4WR25
R109	RC/+4682KT++R	CARBON T 6.8KOHM K1/4WR25
R110	RC/+4102KT++R	CARBON T 1K OHM K1/4WR25
R111	RC/+4104KT++R	CARBON T 100KOHM K1/4WR25
R112	RC/+4274KT++R	CARBON T 270KOHM K1/4WR25
R113	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R114	RC/+4152KT++R	CARBON T 1.5KOHM K1/4WR25
R115	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R301	RC/+4101KT++R	CARBON T 100 OHM K1/4WR25
R302	RC/+4560KT++R	CARBON T 56 OHM K1/4WR25
R303	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R304	RC/+4562KT++R	CARBON T 5.6KOHM K1/4WR25
R501	RC/+4682KT++R	CARBON T 6.8KOHM K1/4WR25
R502	RC/+4821KT++R	CARBON T 820 OHM K1/4WR25
R503	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R504	RC/+4102KT++R	CARBON T 1K OHM K1/4WR25
R505	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R506	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R507	RC/+4272KT++R	CARBON T 2.7KOHM K1/4WR25
R508	RC/+4272KT++R	CARBON T 2.7KOHM K1/4WR25
R509	RC/+4102KT++R	CARBON T 1K OHM K1/4WR25

AMP P.C.BOARD ASSY

Ref. No.	Part No.	Description
92	141-4-285T-00971	P.C BOARD ASSY, AMP.
	4-235T-38071	SOCKET, EXT MIC, EXT SP (4 USED)
	4-240T-31500	SOCKET, HEAD PHONE
	4-237T-00100	TERMINAL BOARD (12 USED)
	4-240T-11200	SOCKET, 3P
L701	4-258T-44210	OSC COIL
S701	4-238T-98000	SWITCH, RECORD/PLAY
S711	4-248T-04171	SWITCH, FUNCTION
S761	4-238T-53600	SWITCH, BEAT CANCEL
VR801	4-220T-09400	VARIABLE RESISTOR, TONE
VR802	4-220T-09300	VARIABLE RESISTOR, VOLUME
IC701	SIM51164AL+++	IC M51164AL
IC702	SILA4190+++++	IC LA4190
Q701	STC3279N+++++	TR 2SC3279 N
or	STD1020E+++++	TR 2SD1020 E
Q702	STC945+K+++++	TR 2SC945 K
Q801	STC945+K+++++	TR 2SC945 K
Q802	STC945+K+++++	TR 2SC945 K

Ref. No.	Part No.	Description
Q803	STC1815BL++++	TR 2SC1815 BL
or	STC945+K+++++	TR 2SC945 K
Q901	STC945+K+++++	TR 2SC945 K
Q902	STC945+K+++++	TR 2SC945 K
Q903	STC1815BL++++	TR 2SC1815 BL
or	STC945+K+++++	TR 2SC945 K
D701	SDGZA062Y++++	ZENER DIODE GZA6.2Y
D703	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
D711	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
D801	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
D901	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
C701	CE6R3476MR++F	ELECT 47MF 6.3V M R
C702	CE+10226MR++F	ELECT 22MF 10V M R
C703	CE6R3477MY++S	ELECT 470MF 6.3V M Y
C704	CE+16106MR++F	ELECT 10MF 16V M R
C705	CE6R3227MR++F	ELECT 220MF 6.3V M R
C706	CE+10107MR++F	ELECT 100MF 10V M R
C707	CE6R3227MR++F	ELECT 220MF 6.3V M R
C708	CE+10108MY++S	ELECT 1000MF 10V M Y
C709	CB+16223NA+Y+	BC CON 0.022MF 16V N A
C711	CE+10228MY++S	ELECT 2200MF 10V M Y
C714	CB+25182NAXR+	BC CON 0.0018MF 25V N A XR
C715	CM+50273MM++S	MYLAR 0.027MF 50V M M
C716	CM+50333MM++S	MYLAR 0.033MF 50V M M
C717	CM+50103MM++S	MYLAR 0.01MF 50V M M
C718	CM+50472MM++S	MYLAR 0.0047MF 50V M M
C719	CE+16106MR++F	ELECT 10MF 16V M R
C720	CE+16106MR++F	ELECT 10MF 16V M R
C725	CC+50221KAYB+	CERAMIC 220PF 50V K A YB
C801	CB+25563MRXRF	BC CON 0.056MF 25V M R XR
C802	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C803	CC+50561KAYB+	CERAMIC 560PF 50V K A YB
C805	CB+25272MAXR+	BC CON 0.0027MF 25V M A XR
C806	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C807	CE6R3476MR++F	ELECT 47MF 6.3V M R
C808	CC+50471KAYB+	CERAMIC 470PF 50V K A YB
C809	CB+25273KRXRF	BC CON 0.027MF 25V K R XR
C810	CE+25105MR++F	ELECT 1MF 25V M R
C811	CC+50561KAYB+	CERAMIC 560PF 50V K A YB
C812	CE+25105MR++F	ELECT 1MF 25V M R
C813	CC+50271KAYB+	CERAMIC 270PF 50V K A YB
C814	CE+25104MR++F	ELECT 0.1MF 25V M R
C815	CB+25153KRXRF	BC CON 0.015MF 25V K R XR
C816	CB+25563KRXRF	BC CON 0.056MF 25V K R XR
C817	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C818	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C819	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C820	CE6R3107MR++F	ELECT 100MF 6.3V M R
C821	CM+50154MM++S	MYLAR 0.15MF 50V M M
C822	CE+10107MR++F	ELECT 100MF 10V M R
C823	CE6R3227MR++F	ELECT 220MF 6.3V M R
C901	CB+25563MRXRF	BC CON 0.056MF 25V M R XR
C902	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C903	CC+50561KAYB+	CERAMIC 560PF 50V K A YB
C905	CB+25272MAXR+	BC CON 0.0027MF 25V M A XR
C906	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C907	CE6R3476MR++F	ELECT 47MF 6.3V M R
C908	CC+50471KAYB+	CERAMIC 470PF 50V K A YB
C909	CB+25273KRXRF	BC CON 0.027MF 25V K R XR
C910	CE+25105MR++F	ELECT 1MF 25V M R
C911	CC+50561KAYB+	CERAMIC 560PF 50V K A YB
C912	CE+25105MR++F	ELECT 1MF 25V M R
C913	CC+50271KAYB+	CERAMIC 270PF 50V K A YB
C914	CE+25104MR++F	ELECT 0.1MF 25V M R
C915	CB+25153KRXRF	BC CON 0.015MF 25V K R XR
C916	CB+25563KRXRF	BC CON 0.056MF 25V K R XR
C917	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C918	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C919	CC+50102KAYB+	CERAMIC 0.001MF 50V K A YB
C920	CE6R3107MR++F	ELECT 100MF 6.3V M R

Ref. No.	Part No.	Description
C921	CM+50154MM++S	MYLAR 0.15MF 50V M M
C922	CE+10107MR++F	ELECT 100MF 10V M R
C923	CE6R3227MR++F	ELECT 220MF 6.3V M R
R701	RC/+4122KT++R	CARBON T 1.2KOHM K1/4WR25
R702	RC/+4275KT++R	CARBON T 2.7MOHM K1/4WR25
R703	RC/+4223KT++R	CARBON T 22K OHM K1/4WR25
R704	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R709	RC/+4331KT++R	CARBON T 330 OHM K1/4WR25
R711	RC/+4221KT++R	CARBON T 220 OHM K1/4WR25
R712	RC/+4392KT++R	CARBON T 3.9KOHM K1/4WR25
R713	RC/+42R2KT++R	CARBON T 2.2 OHM K1/4WR25
R714	RC/+4560KT++R	CARBON T 56 OHM K1/4WR25
R717	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R801	RC/+4222KT++R	CARBON T 2.2KOHM K1/4WR25
R802	RC/+4472KT++R	CARBON T 4.7KOHM K1/4WR25
R803	RC/+4182KT++R	CARBON T 1.8KOHM K1/4WR25
R804	RC/+4104KT++R	CARBON T 100KOHM K1/4WR25
R805	RC/+4330KT++R	CARBON T 33 OHM K1/4WR25
R806	RC/+4392KT++R	CARBON T 3.9KOHM K1/4WR25
R807	RC/+4273KT++R	CARBON T 27K OHM K1/4WR25
R808	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R809	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R810	RC/+4273KT++R	CARBON T 27K OHM K1/4WR25
R811	RC/+4125KT++R	CARBON T 1.2MOHM K1/4WR25
R812	RC/+4181KT++R	CARBON T 180 OHM K1/4WR25
R813	RC/+4153KT++R	CARBON T 15K OHM K1/4WR25
R814	RC/+4824KT++R	CARBON T 820KOHM K1/4WR25
R815	RC/+4562KT++R	CARBON T 5.6KOHM K1/4WR25
R816	RC/+4184KT++R	CARBON T 180KOHM K1/4WR25
R817	RC/+4103KT++R	CARBON T 10K OHM K1/4WR25
R818	RC/+4123KT++R	CARBON T 12K OHM K1/4WR25
R819	RC/+4563KT++R	CARBON T 56K OHM K1/4WR25
R820	RC/+4154KT++R	CARBON T 150KOHM K1/4WR25
R821	RC/+4473KT++R	CARBON T 47K OHM K1/4WR25
R822	RC/+4153KT++R	CARBON T 15K OHM K1/4WR25
R823	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R825	RC/+4820KT++R	CARBON T 82 OHM K1/4WR25
R826	RC/+4123KT++R	CARBON T 12K OHM K1/4WR25
R827	RC/+4184KT++R	CARBON T 180KOHM K1/4WR25
R901	RC/+4222KT++R	CARBON T 2.2KOHM K1/4WR25
R902	RC/+4472KT++R	CARBON T 4.7KOHM K1/4WR25
R903	RC/+4182KT++R	CARBON T 1.8KOHM K1/4WR25
R904	RC/+4104KT++R	CARBON T 100KOHM K1/4WR25
R905	RC/+4330KT++R	CARBON T 33 OHM K1/4WR25
R906	RC/+4392KT++R	CARBON T 3.9KOHM K1/4WR25
R907	RC/+4273KT++R	CARBON T 27K OHM K1/4WR25
R908	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R909	RC/+4332KT++R	CARBON T 3.3KOHM K1/4WR25
R910	RC/+4273KT++R	CARBON T 27K OHM K1/4WR25
R911	RC/+4125KT++R	CARBON T 1.2MOHM K1/4WR25
R912	RC/+4181KT++R	CARBON T 180 OHM K1/4WR25
R913	RC/+4153KT++R	CARBON T 15K OHM K1/4WR25
R914	RC/+4824KT++R	CARBON T 820KOHM K1/4WR25
R915	RC/+4562KT++R	CARBON T 5.6KOHM K1/4WR25
R916	RC/+4184KT++R	CARBON T 180KOHM K1/4WR25
R917	RC/+4103KT++R	CARBON T 10K OHM K1/4WR25
R918	RC/+4123KT++R	CARBON T 12K OHM K1/4WR25
R919	RC/+4563KT++R	CARBON T 56K OHM K1/4WR25
R920	RC/+4154KT++R	CARBON T 150KOHM K1/4WR25
R921	RC/+4473KT++R	CARBON T 47K OHM K1/4WR25
R922	RC/+4153KT++R	CARBON T 15K OHM K1/4WR25
R923	RC/+4220KT++R	CARBON T 22 OHM K1/4WR25
R925	RC/+4820KT++R	CARBON T 82 OHM K1/4WR25
R926	RC/+4123KT++R	CARBON T 12K OHM K1/4WR25
R927	RC/+4184KT++R	CARBON T 180KOHM K1/4WR25

OPR/BATT & FM STEREO LED P.C.BOARD ASSY

Ref. No.	Part No.	Description
93	141-4-285T-00671	P.C BOARD ASSY, OPR/BATT & FM STEREO LED
D501	SLSLP155B++RE	LED SLP155B RED, FM STEREO
D710	SLSLP155B++RE	LED SLP155B RED, OPR/BATT
R715	RC/+4471KT++R	CARBON T 470 OHM K1/4WR25
R716	RC/+4221KT++R	CARBON T 220 OHM K1/4WR25

DUBBING SPEED SWITCH P.C.BOARD ASSY

Ref. No.	Part No.	Description
94	141-4-285T-00771	P.C BOARD ASSY, DUBBING SPEED SWITCH
	4-237T-00100	TERMINAL BOARD (4 USED)
S721	4-238T-76600	SWITCH, DUBBING SPEED
SVR601	4-222T-97583	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, HIGH
SVR602	4-222T-39571	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
or	4-222T-81471	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
or	4-222T-97571	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
SVR603	4-222T-39571	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
or	4-222T-81471	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
or	4-222T-97571	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, NORMAL
SVR604	4-222T-97583	SEMI-FIXED RESISTOR, MOTOR SPEED CONTROL, HIGH
Q601	STC1815BL++++	TR 2SC1815 BL
or	STC945+K+++++	TR 2SC945 K
Q604	STC1815BL++++	TR 2SC1815 BL
or	STC945+K+++++	TR 2SC945 K
D601	SDDS442+X+++T	DIODE DS442 X
or	SD1S2473++++T	DIODE 1S2473T-77
R601	RM/+4121JP+HR	METAL P 120 OHM J 1/4WR25
R602	RM/+4221JP+HR	METAL P 220 OHM J1/4WR25
R603	RM/+4271JP+HR	METAL P 270 OHM J 1/4WR25
R605	RC/+4102KT++R	CARBON T 1K OHM K1/4WR25
R612	RM/+4271JP+HR	METAL P 270 OHM J 1/4WR25
R613	RM/+4221JP+HR	METAL P 220 OHM J1/4WR25
R614	RM/+4121JP+HR	METAL P 120 OHM J 1/4WR25
R615	RC/+4102KT++R	CARBON T 1K OHM K1/4WR25
R616	RM/+4471JP+HR	METAL P 470 OHM J1/4WR25
R618	RM/+4471JP+HR	METAL P 470 OHM J1/4WR25

POWER TRANSFORMER P.C.BOARD ASSY

Ref. No.	Part No.	Description
96	141-4-280T-20201	P.C BOARD ASSY, POWER TRANSFORMER
	4-237T-00100	TERMINAL BOARD
PT	⚠ 4-300T-73071	POWER TRANSFORMER

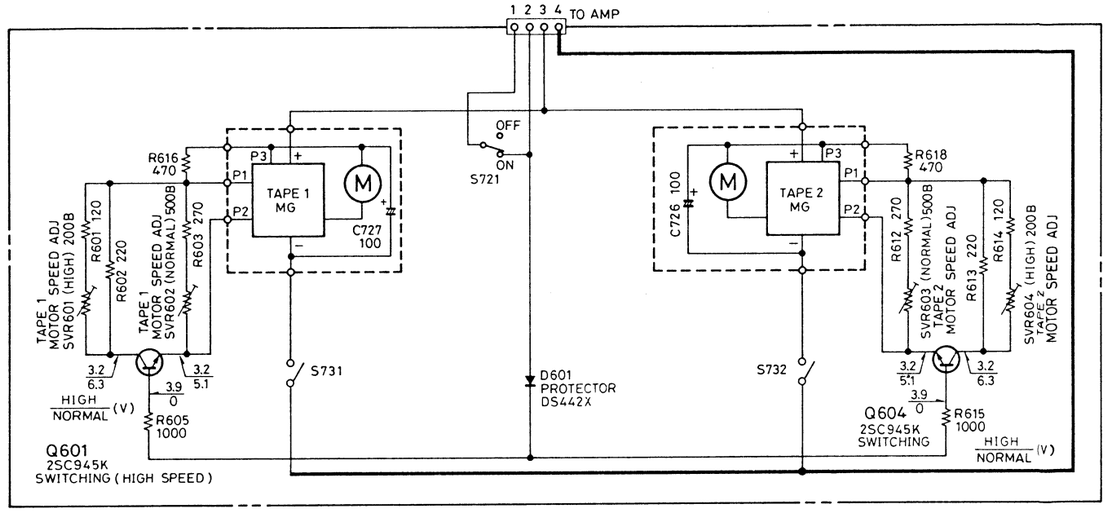
POWER SUPPLY P.C.BOARD ASSY

Ref. No.	Part No.	Description
95	141-4-280T-18173	P.C BOARD ASSY, POWER SUPPLY
	141-2-381T-04200	BRACKET FUSE (2 USED)
	141-2-382T-18900	TERMINAL (2 USED)
	4-237T-00171	TERMINAL BOARD (3 USED)
S751	4-238T-75800	SWITCH, AC/DC
S771	4-238T-13075	SWITCH, AC VOLTAGE SELECTOR
D712	⚠ SDDS135+E++++	DIODE DS135 E
D713	⚠ SDDS135+E++++	DIODE DS135 E
D714	⚠ SDDS135+E++++	DIODE DS135 E
D715	⚠ SDDS135+E++++	DIODE DS135 E
C719	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C720	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C721	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF
C722	CC+50223ZDZFS	CERAMIC 0.022MF 50V Z D ZF

FM MODE SWITCH P.C.BOARD ASSY

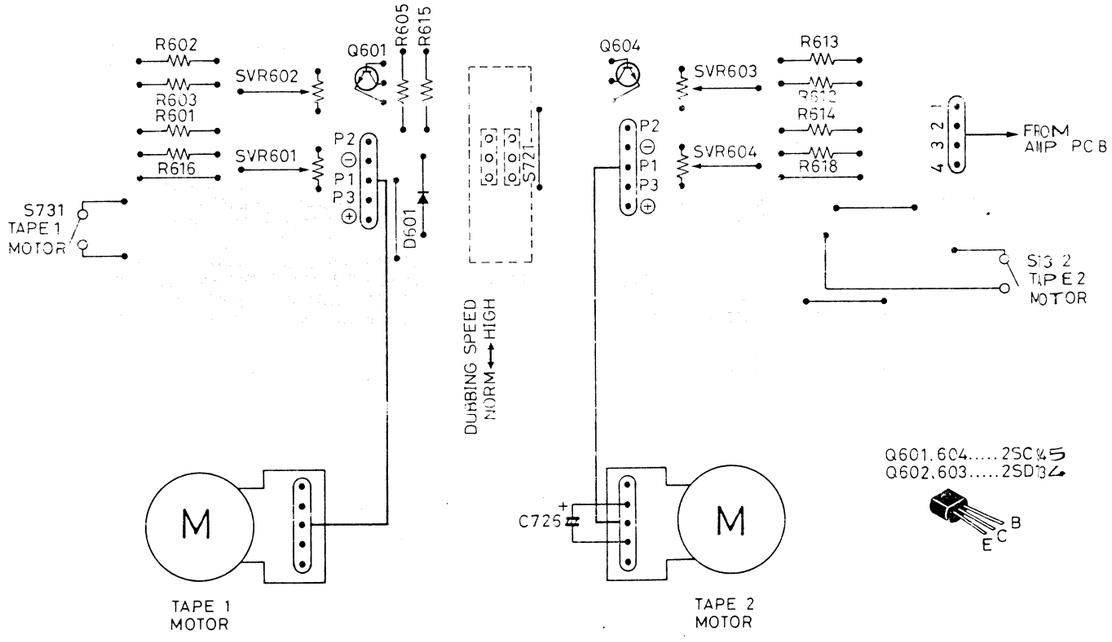
Ref. No.	Part No.	Description
97	141-4-285T-22600	P.C BOARD ASSY, FM MODE SWITCH
S2	4-231T-65200	SWITCH

SCHEMATIC DIAGRAM (CONTROL)



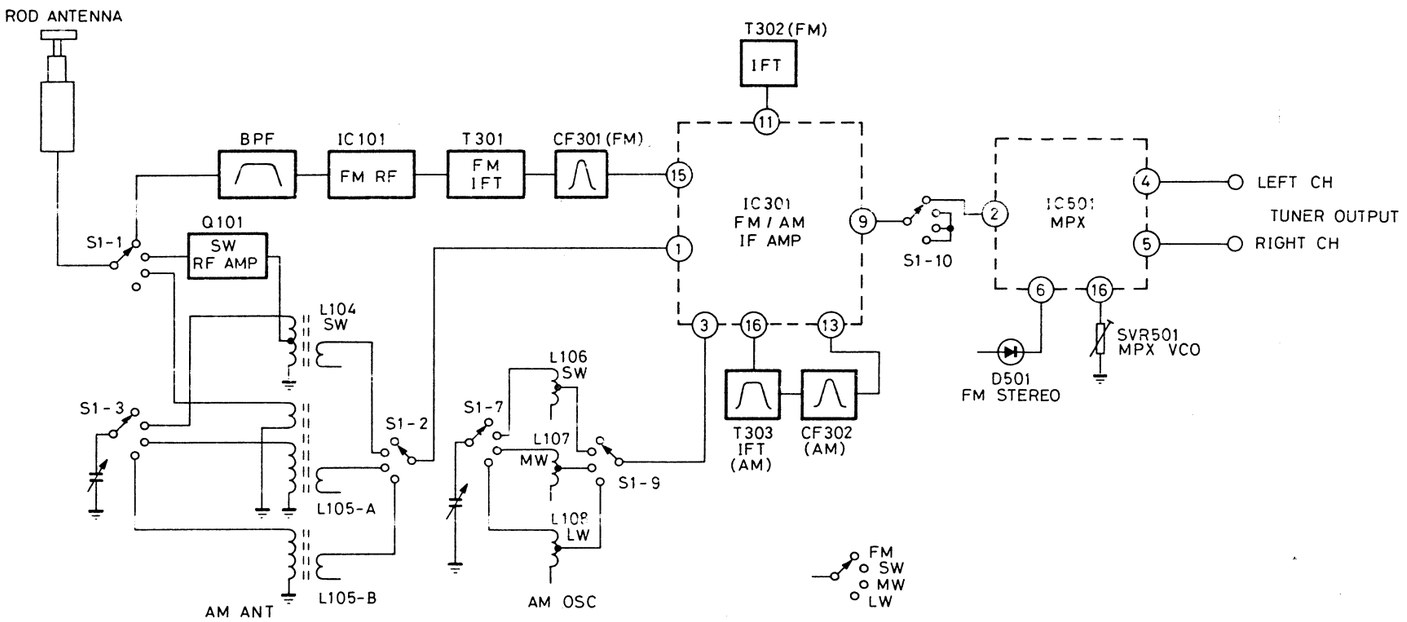
SWITCHES
- S721----------DUBBING SPEED SWITCH (NORMAL/HIGH)
- S731----------TAPE 1 MOTOR SWITCH
- S732----------TAPE 2 MOTOR SWITCH

WIRING DIAGRAM (CONTROL)

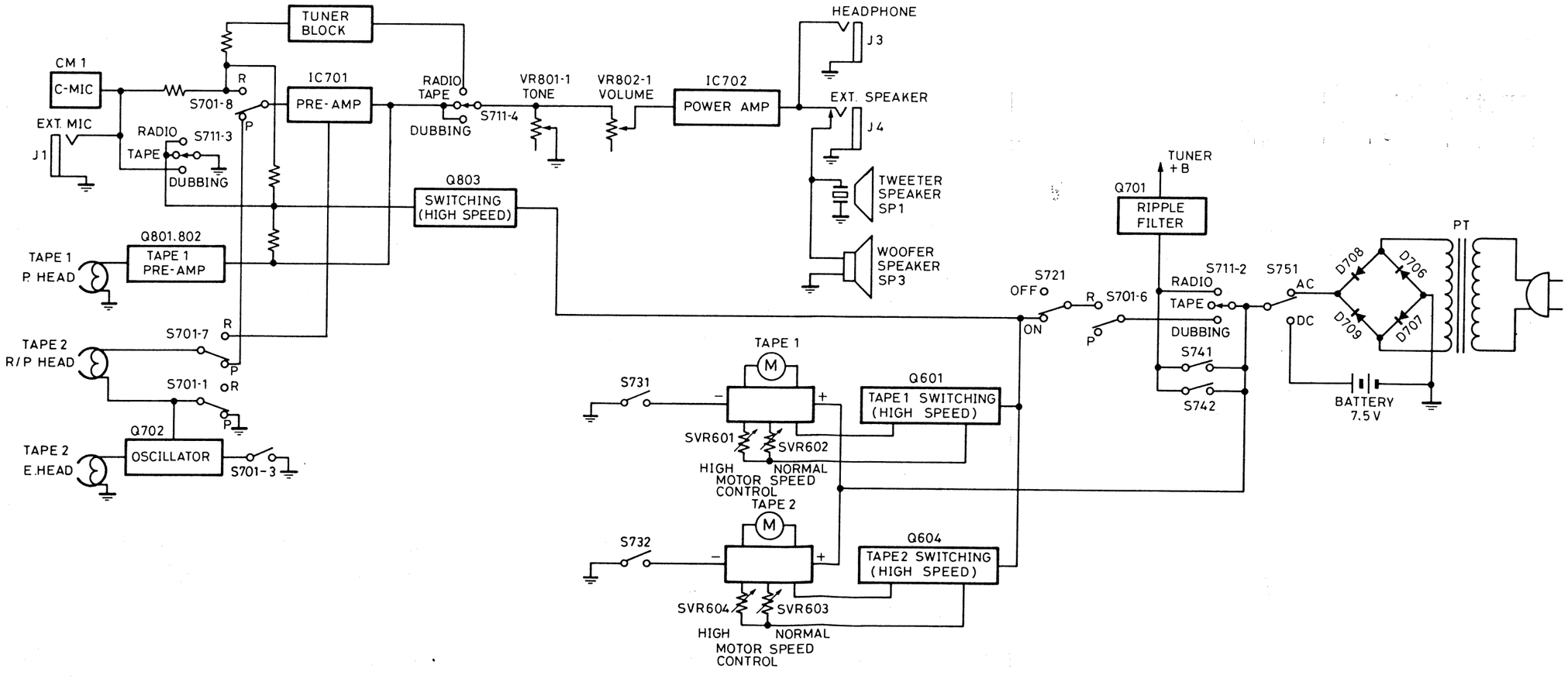


BLOCK DIAGRAM

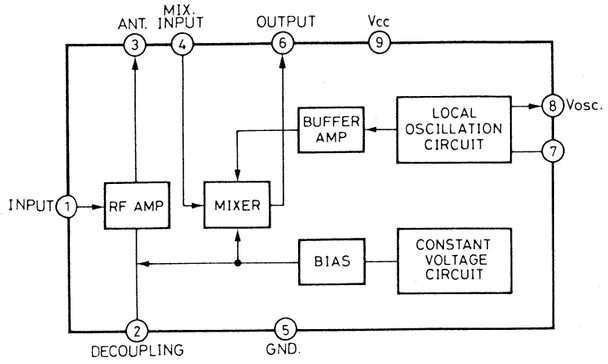
TUNER



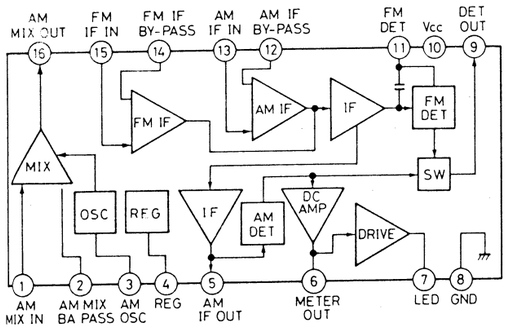
AMP



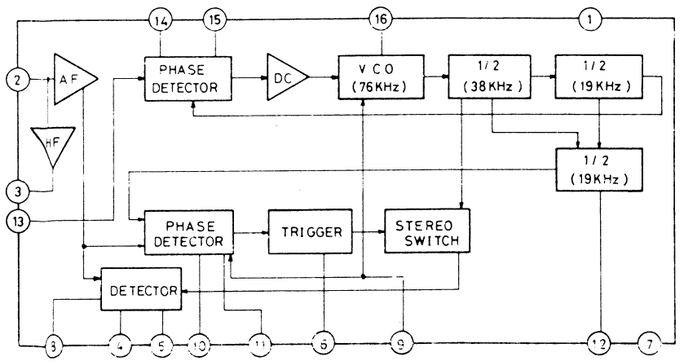
IC101 TA7358 (FM FRONT END)

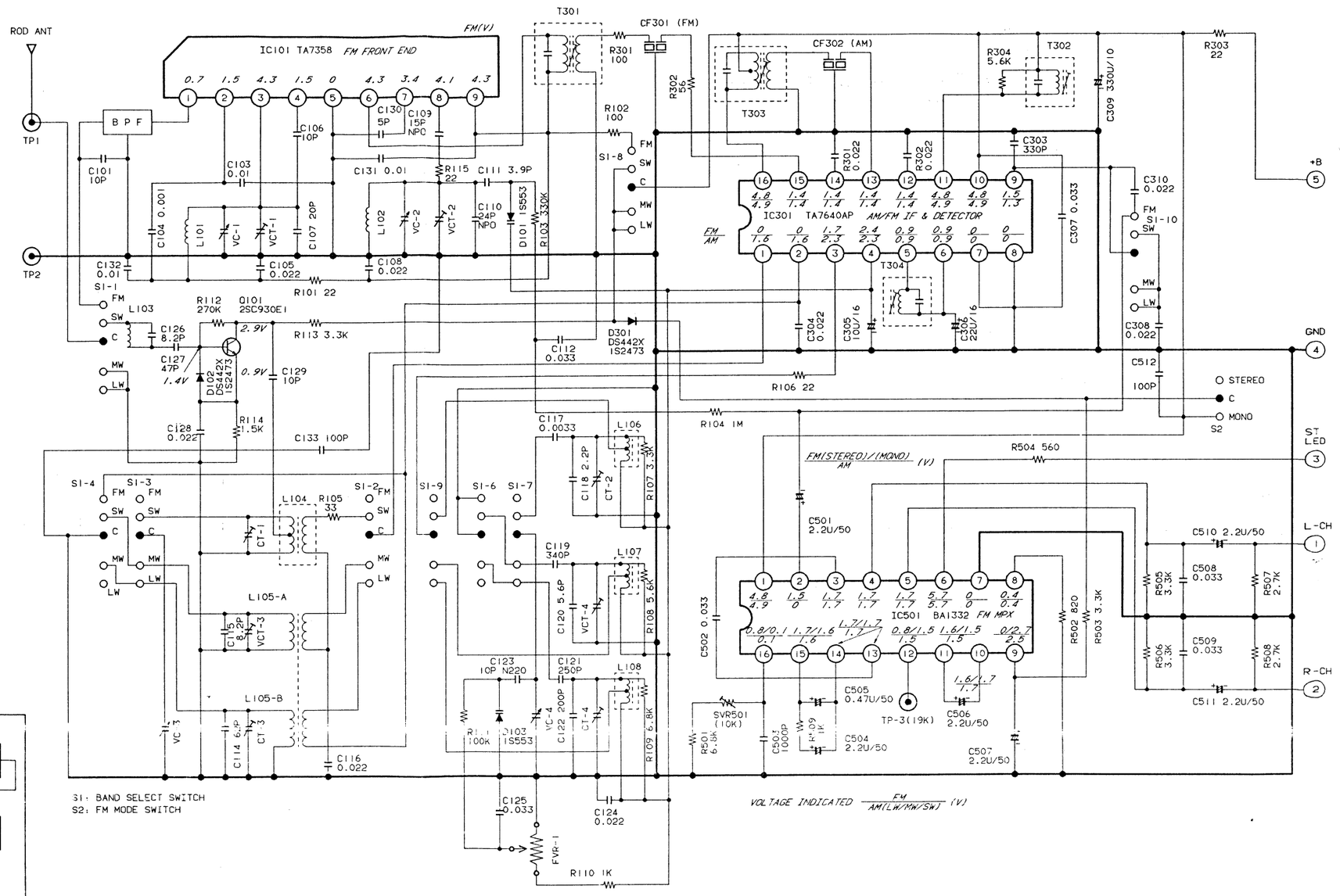


IC301 TA7640 (FM/AM IF AMP & DETECTOR)



IC501 BA1332 (FM MPX)

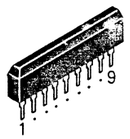




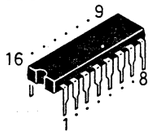
S1: BAND SELECT SWITCH
S2: FM MODE SWITCH

E 4K 11P

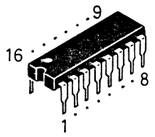
IC101.....TA7358P

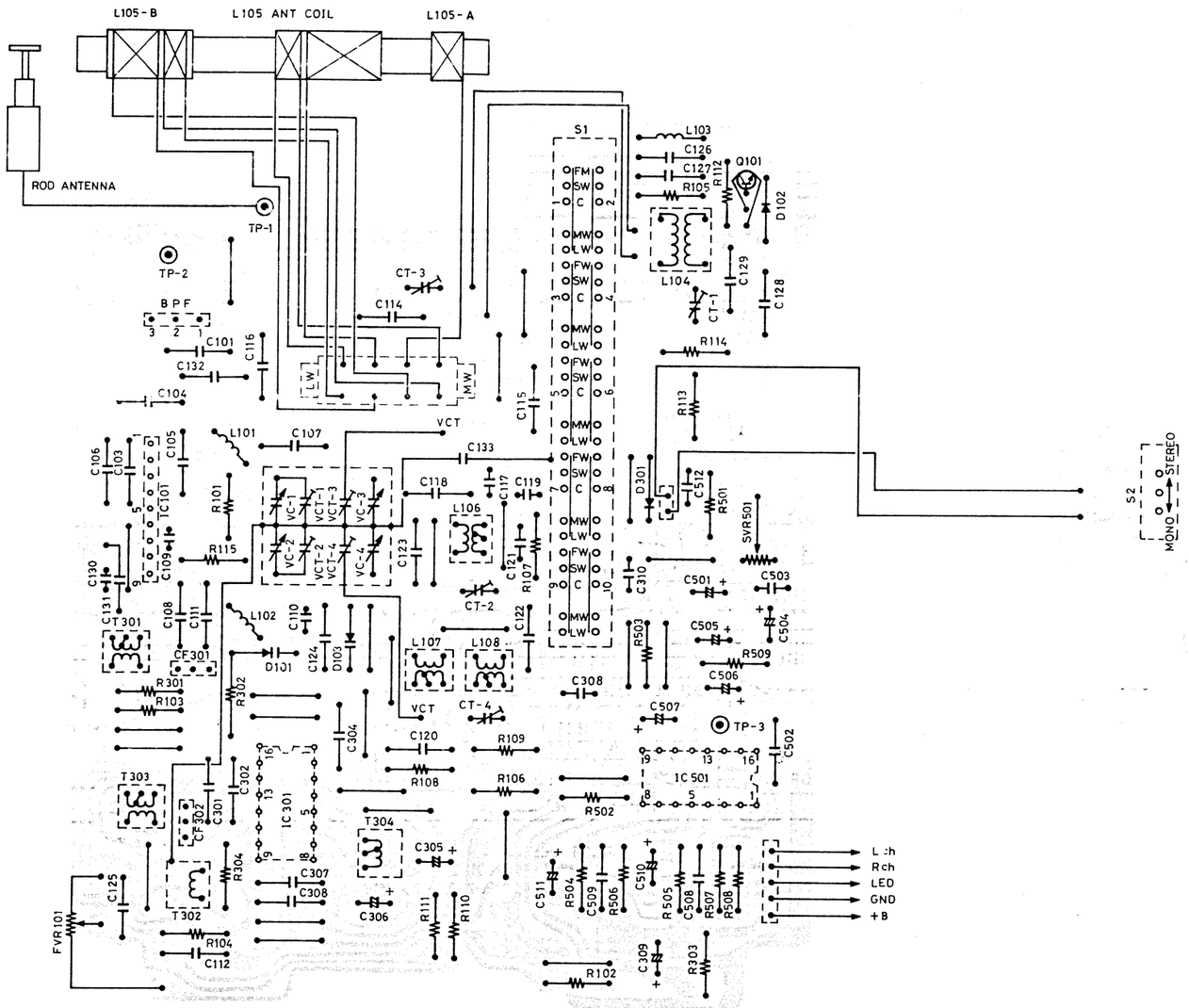


IC301.....TA7640AP



IC501.....BA1332

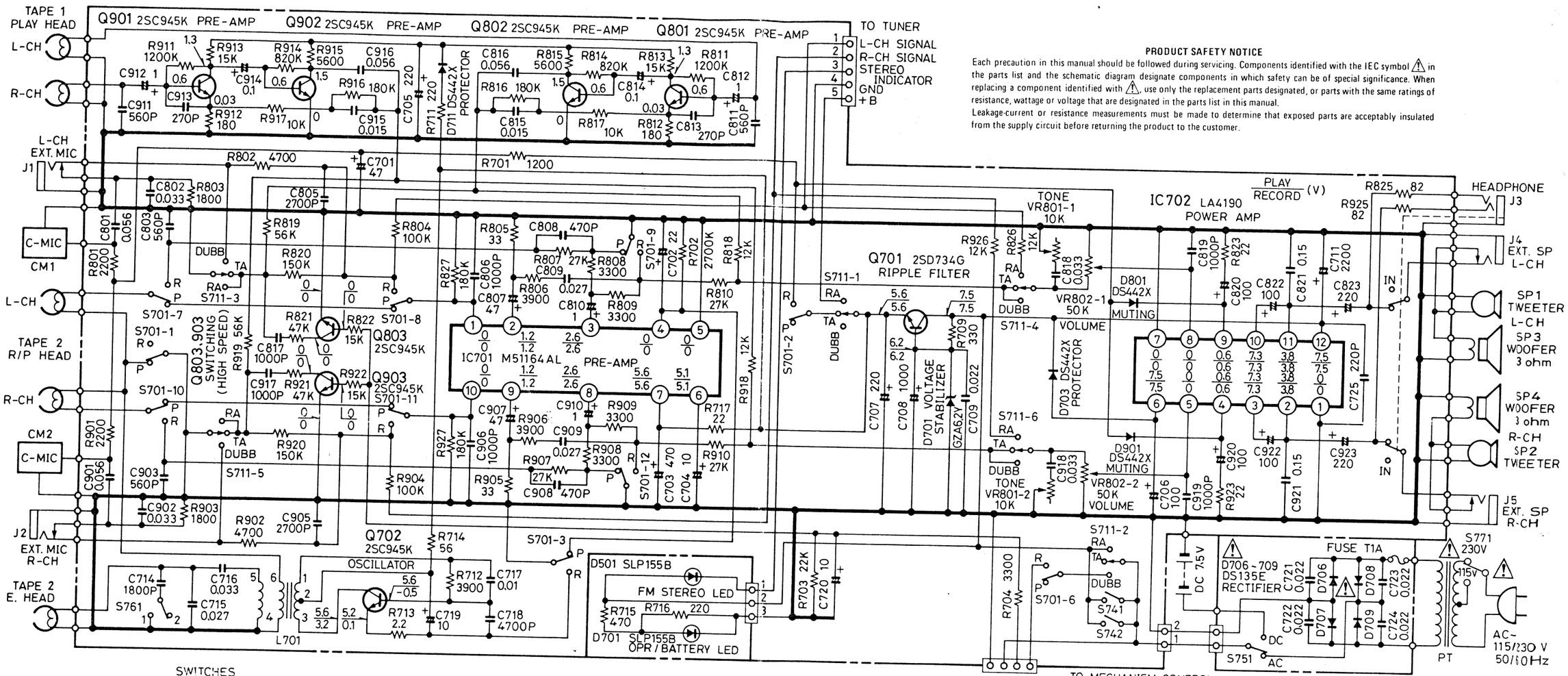




SWITCH

S1 . . . . .BAND SELECT SWITCH (LW/MW/SW/FM)

S2 . . . . .FM MODE SWITCH (MONO/STEREO)



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

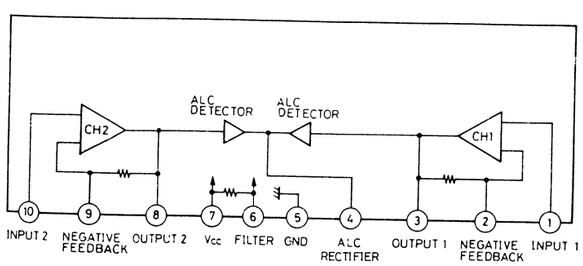
SWITCHES

S701-1~S701-12 --- RECORD/PLAY CHANGE SWITCH (RECORD/PLAY)
S711-1~S711-6 --- FUNCTION SWITCH (RADIO/TAPE/DUBBING)
S741 ---------- TAPE 1 PLAY SWITCH
S742 ---------- TAPE 2 PLAY SWITCH
S751 ---------- AC/DC SELECT SWITCH (AC/DC)
S761 ---------- BEAT CANCEL SWITCH (1/2)
S771 ---------- VOLTAGE SELECTOR SWITCH (115/230V)

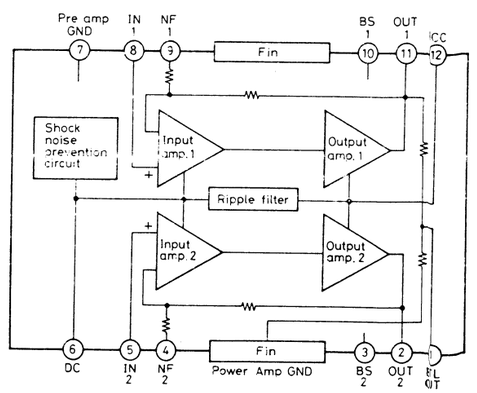
CONTROLS

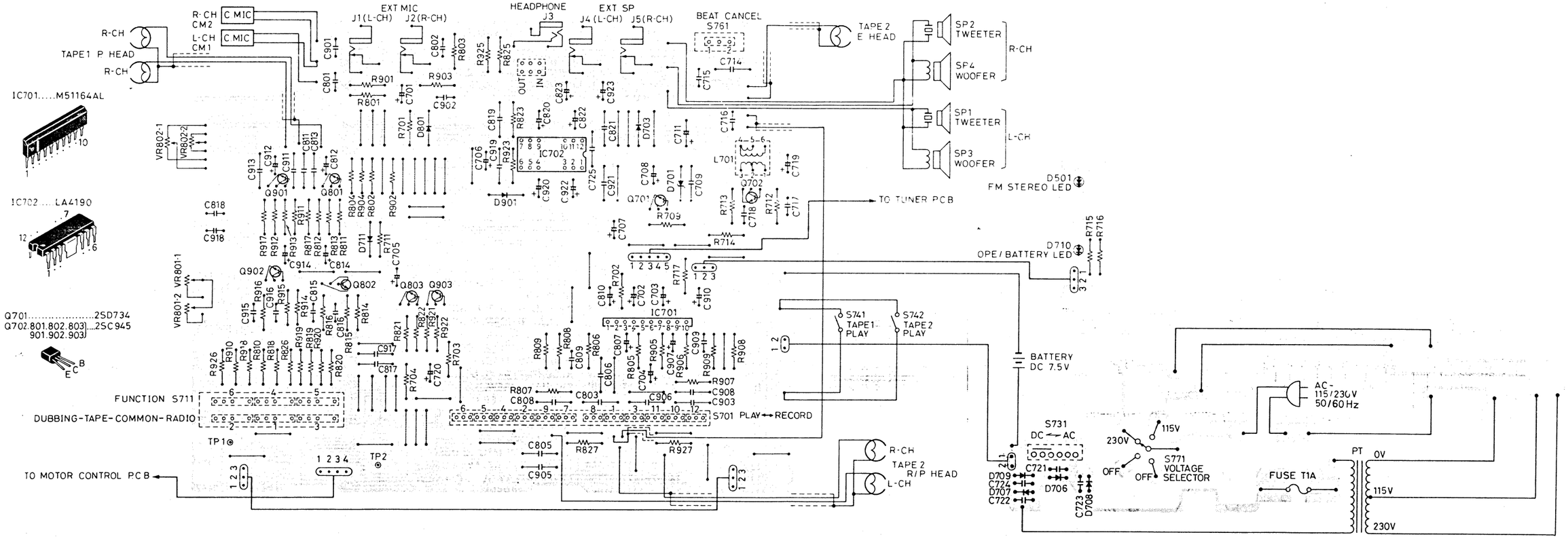
VR801-1, VR801-2 --- TONE
VR801-1, VR802-2 --- VOLUME

IC701 M51164 (PRE-AMP)



IC702 LA4190 (POWER AMP)





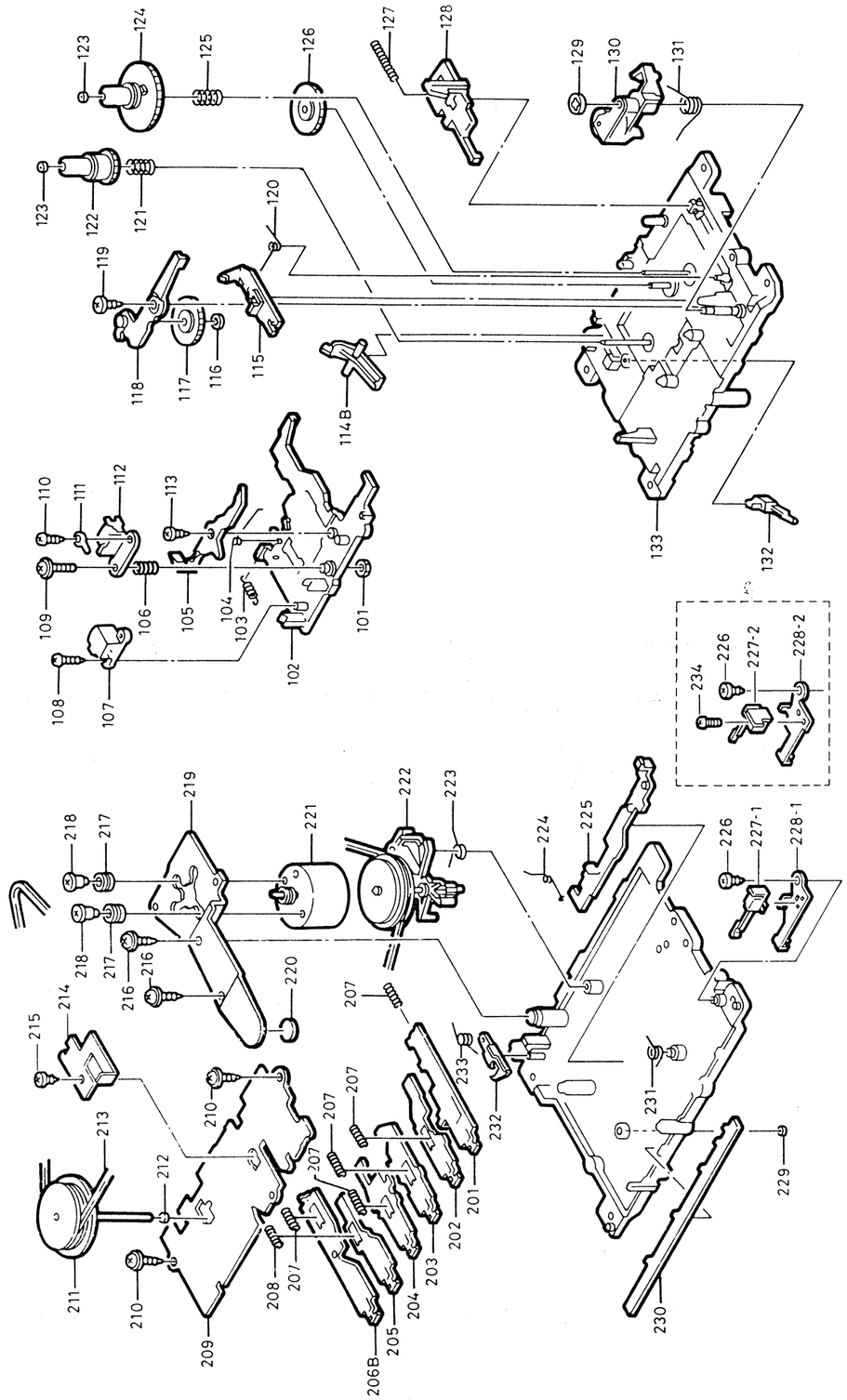
SWITCHES

S701-1 – S701-12 . . . .RECORD/PLAY CHANGE SWITCH (RECORD/PLAY)
S711-1 – S711-6 . . . . .FUNCTION SWITCH (RADIO/TAPE/DUBBING)
S741 . . . . . .TAPE 1 PLAY SWITCH
S742 . . . . . .TAPE 2 PLAY SWITCH
S751 . . . . . .AC/DC SELECT SWITCH (AC DC)
S761 . . . . . .BEAT CANCEL SWITCH (1 2)
S771 . . . . . .VOLTAGE SELECTOR SWITCH (115/230V)

CONTROLS

VR801, 901 . . . . . .TONE CONTROL
VR802, 902 . . . . . .VOLUME CONTROL

MECHANISM EXPLODED VIEW



Note: The Play Switches Ref. Nos. 227-1 and 227-2 are used in production mixed.
The switches and their brackets Ref. Nos. 228-1 and 228-2 are not interchangeable.
In service, use the same type of replacement part as originally used, or replace all of the switch, bracket and mounting screws with the other types.

PARTS LIST (MECHANISM)

In this Parts List, since two similar mechanisms are incorporated in the main body, the parts for the both are entered in the same list.

Mechanism \ Part division	Exclusive parts for TAPE A or TAPE B	Common parts for TAPE A and TAPE B
Right Side mechanism TAPE A (TAPE1) (play)	"A" attached to end of Ref. No (e.g. 107A, 121A)	Only part number is given.
Left side mechanism TAPE B (TAPE 2) (record/play)	"B" attached to end of Ref. No (e.g. 107B, 114B)	

Ref. No.	Part No.	Description
101	NJR3S++2+++Z1	HEXAGON NUT, 2MM, RECORD/PLAY HEAD MTG. (2 USED)
102	141-2-732T-10330	SLIDE, TAPE HEAD (2 USED)
103	141-2-856T-14901	SPRING COIL, TAPE HEAD SLIDE (2 USED)
104	141-2-852T-82101	SPRING WIRE, RELAY GEAR (2 USED)
105	141-2-742T-97630	LEVER, SHUT-OFF (2 USED)
106	141-2-856T-15200	SPRING COIL, RECORD/PLAY HEAD AZIMUTH (2 USED)
107A	4-242T-35300	MAGNETIC HEAD, DUMMY HEAD
107B	4-242T-29571	MAGNETIC HEAD, ERASING
108	BJN2S++2+8+Z1	PAN HD 2 TAPPING SCREW 2X8MM, ERASING HEAD MTG. (2 USED)
109	BJS+S++210+Z1	FLAT HD SCREW 2X10MM, RECORD/PLAY HEAD MTG. (2 USED)
110	BJN2S++2+8+Z1	PAN HD 2 TAPPING SCREW 2X8MM, RECORD/PLAY HEAD MTG. (2 USED)
111	141-2-472T-00200	LUG, GROUND (2 USED)
112	4-242T-29872	MAGNETIC HEAD, RECORD/PLAY (2 USED)
113	141-2-421T-41000	SPECIAL SCREW, SHUT-OFF LEVER (2 USED)
114B	141-2-742T-97500	LEVER, ACCIDENTAL RECORDING
115	141-2-742T-97430	LEVER, AUTO STOP (2 USED)
116	141-2-457T-20000	SPECIAL WASHER, RELAY GEAR MTG. (2 USED)
117	141-2-581T-29500	GEAR, F.FWD RELAY (2 USED)
118	141-2-742T-97230	LEVER, RELAY GEAR (2 USED)
119	141-2-421T-41000	SPECIAL SCREW, RELAY GEAR LEVER (2 USED)
120	141-2-852T-82000	SPRING WIRE, AUTO STOP LEVER MTG. (2 USED)
121A	141-2-856T-14400	SPRING COIL, SUPPLY REEL
121B	141-2-856T-14401	SPRING COIL, SUPPLY REEL
122	141-2-531T-14900	REEL PLATE, SUPPLY REEL (2 USED)
123	141-2-453T-30001	WASHER, GRAPHITE NYLON, 1.7X3.2X0.25MM (4 USED)
124	141-0-531T-14800	REEL PLATE ASSY, TAKE-UP (2 USED)
125	141-2-856T-17200	SPRING COIL, TAKE-UP REEL PLATE (2 USED)
126	141-2-581T-29500	GEAR, PLAY RELAY (2 USED)
127	141-2-856T-15100	SPRING COIL, EJECT SLIDE (2 USED)
128	141-2-732T-14500	SLIDE, EJECT (2 USED)
129	141-2-457T-20100	SPECIAL WASHER, LEVER PINCH ROLLER (2 USED)
130	141-0-545T-08432	LEVER PINCH ROLLER ASSY (2 USED)
131	141-2-852T-82402	SPRING WIRE, PINCH ROLLER (2 USED)
132	4-238T-63700	SWITCH, MOTOR S731,S732 (2 USED)
133	141-0-311T-44001	CHASSIS ASSY (2 USED)
201	141-0-732T-11100	SLIDE ASSY, PAUSE (2 USED)
202	141-2-732T-11000	SLIDE, STOP (2 USED)
203	141-2-732T-10900	SLIDE, F.FWD (2 USED)
204	141-2-732T-10800	SLIDE, REW (2 USED)
205	141-2-732T-10700	SLIDE, PLAY (2 USED)
206B	141-2-732T-16800	SLIDE, RECORD
207	141-2-856T-14700	SPRING COIL, BUTTON SLIDE (2 USED)
208	141-2-856T-15000	SPRING COIL, PLAY BUTTON (2 USED)
209	141-2-737T-09800	BRACKET SLIDE, BUTTON SLIDE (2 USED)
210	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8MM, BRACKET SLIDE MTG. (2 USED)
211	141-0-521T-14610	FLYWHEEL ASSY (2 USED)
212	141-2-453T-30102	WASHER, GRAPHITE NYLON, 2.1X4X0.5MM, FLYWHEEL (2 USED)
213	141-2-564T-39700	SQUARE BELT, MAIN BELT (2 USED)
214	141-2-310T-89400	BRACKET, PLAY SWITCH ON/OFF (2 USED)
215	141-2-421T-41000	SPECIAL SCREW, BRACKET MTG. (2 USED)
216	BJB2S++3+8+Z1	BIND HD 2 TAPPING SCREW 3X8MM, BRACKET MOTOR MTG. (4 USED)
217	141-2-445T-29100	RUBBER CUSHION, MOTOR MTG. (4 USED)
218	141-2-421T-41200	SPECIAL SCREW, MOTOR MTG. (4 USED)
219A	141-2-378T-14202	BRACKET MOTOR, MOTOR MTG.
219B	141-2-378T-14201	BRACKET MOTOR, MOTOR MTG. (2 USED)
220	141-2-573T-17900	BEARING, FLYWHEEL (2 USED)
221	4-527T-29401	COMMUTATE MOTOR ASSY (2 USED)
222	141-0-742T-97110	LEVER ASSY, REW/F.FWD (2 USED)
223	141-2-852T-82301	SPRING WIRE, REW/F.FWD LEVER (2 USED)
224	141-2-852T-82700	SPRING WIRE, SWITCH "ON" SLIDE (2 USED)
225	141-2-732T-10500	SLIDE, SWITCH "ON" (2 USED)
226	141-2-421T-41000	SPECIAL SCREW, BRACKET SWITCH MTG. (2 USED)
227-1	4-238T-63600	SWITCH, PLAY, S741,S742 (2 USED)
227-2	4-238T-99371	SWITCH, PLAY S741,S742 (2 USED)
228-1	141-2-365T-57900	BRACKET SWITCH, PLAY (2 USED)
228-2	141-2-365T-60800	BRACKET SWITCH, PLAY SWITCH (2 USED)
229	141-2-457T-04110	SPECIAL WASHER, GRAPHITE NYLON, 1.7X4.5X 0.5MM, FLYWHEEL (2 USED)
230	141-2-732T-15900	SLIDE, LOCK (2 USED)
231	141-2-852T-82600	SPRING WIRE, LOCK SLIDE (2 USED)
232	141-2-742T-35601	LEVER, PAUSE CAM (2 USED)
233	141-2-852T-82500	SPRING WIRE, PAUSE CAM LEVER (2 USED)
234	BJNBS++2+3+Z1	PAN HD SCREW 2X3MM, PLAY SWITCH MTG. (2 USED)

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